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Weed Control Methods

Cooperative Extension South Dakota State University

Weed Control Methods

The following outline is prepared as a guide to help South Dakota farmers plan an effective weed control program for their farms and community. Detailed information on various recommended weed control practices is available from separate circulars which may be obtained from county Extension Offices.

Chemical Methods

Notes: (a) Only chemicals that have proved to be effective are listed after each weed.

(b) Atlacide contains a lower percentage of sodum chlorate. If atlacide is used, 6 pounds per square rod should be applied in place of 5 pounds of sodium chlorate.

(c) The same amount of 2,4-D acid should be used per acre regardless of whether 5 or 80 gallons of water are used per acre.

(d) When treating a patch of weeds with sodium chlorate or borax, also apply chemical at least one rod beyond the patch so any new underground shoots also will receive treatment.

Weed	Chemical	Rate	When to apply	Form
Creeping Jenny (Field bindweed)	Sodium chlorate	5 lb. sq. rod	July 1 to Oct. 15	dry or spray
	Borax	20 lb. sq. rod	anytime	dry
	2,4-D	¾ lb. active 2,4-D acid per acre	first bloom to full bloom or before grain is in boot-stage	spray or dust
Canada thistle and Perennial Sow Thistle	Sodium Chlorate	5 lb. sq. rod	July 1 to Oct. 15	dry or spray
	Borax	20 lb. sq. rod	anytime	dry
	2,4-D	1¼ lb. active 2,4-D acid per acre	8 in. high to first bud	spray or dust
Leafy spurge	Borax (most effective)	15 lb. sq. rod	anytime	dry
	Sodium chlorate	5 lb. sq. rod	July 1 to Oct. 15	dry or spray
Perennial pepper grass, Russian knapweed, Horse nettle	Sodium chlorate	5 lb. sq. rod	July 1 to Oct. 15	dry or spray
	Borax	20 lb. sq. rod	anytime	dry
Quackgrass	Sodium chlorate	5 lb. sq. rod	July 1 to Oct. 15	dry or spray

Annual Weed Control with 2,4-D

In small grain: ¼ to ½ pound of 2,4-D acid per acre when weeds are about 6 inches tall and before grain is in the boot-stage.

In flax: ¼ pound of 2,4-D acid per acre on Kota, Dakota, Sheyenne and Redwing when flax is 3 to 6 inches tall. Do not use an ester formulation and do not spray other varieties.

In Corn or Sorghum: ¼ pound of 2,4-D acid per acre in ester form or ¼ to ½ pound of 2,4-D acid per acre in amine and sodium salt forms. Spray after corn is 12" tall and before it is "laid by."

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Cultural Methods of Weed Control

A. Intensive Cultivation and Rye

Intensive cultivation and rye has proved to be effective in controlling and eradicating large areas of deep rooted perennial noxious weeds. This method is effective because, if properly conducted, the weeds are killed and moisture is conserved, resulting in above-average yield of rye after treatment.

Because creeping jenny is very susceptible to 2,4-D, it is reasonable to expect that treatment with 2,4-D may replace the intensive cultivation and rye method. However, for large areas of other deep-rooted noxious weeds, this method still has a definite place in the weed control program.

Equipment needed—a field duckfoot cultivator equipped with wide (12-24 inches) sweeps. Sweeps must overlap 3 or 4 inches, must be sharp, and must be run at a uniform depth of 4 to 5 inches.

First Year

1. Plow 5 inches deep on June 1 for creeping jenny. For leafy spurge, Russian knapweed and perennial peppergrass, plow on about May 15. For Canada thistle, perennial sow thistle, and horse nettle, plow on about June 15.
2. Cultivate with a duckfoot every 2 weeks until about the middle of September. For Canada thistle and perennial sow thistle, 3 week intervals can be used.
3. Immediately after last cultivation in September, seed in 2 bushels of rye per acre with a grain drill.

Second Year

1. Combine rye for grain as soon as possible.
2. Continue cultivation as recommended in first year. If ground is dry and hard, plowing may be necessary for the first operation.
3. After last cultivation in September, seed in 2 bushels of rye per acre with grain drill.

Third Year

1. Combine rye crop as soon as possible and continue cultivations according to directions outlined for previous years.
2. After last cultivation in September, seed 1 bushel of oats per acre for a cover crop to prevent soil blowing. Return land to regular rotation.

B. Pasturing with Sheep to Control Leafy Spurge

Large areas of leafy spurge on land too rough for cultivation and where grass is established, can be successfully controlled by pasturing with sheep. Sheep like leafy spurge tops and young shoots; consequently, no seed will be produced. Grazing should start in the spring when spurge plants are about 6 inches high. A good stand of grass is important and reseeding may be necessary.

C. Quackgrass Control Methods

1. Small Grain and Sweet Clover plus Intensive Cultivation

First Year: Raise small grain that is seeded to sweet clover.

Second Year: Cut sweet clover for hay. Plow the area 5 inches deep, immediately after harvesting the hay. Cultivate intensively with a springtooth harrow until fall.

Third Year: Plant a row crop and do a thorough job of cultivating. Mop up stray plants.

This method has proved to be succesful and practical in South Dakota. Quackgrass does best under favorable moisture conditions. Sweet clover hay crop shades the quackgrass and removes most of the soil moisture, preparing the land for fallowing operations. Mid-summer is usually dry and that is the time to kill quackgrass.

2. Intensive Cultivation

First Year: Summer and fall cultivations give best results. Plow July 1, at about 3 to 4 inches deep and disc up the sod. Continue cultivations until late fall with a springtooth harrow or springtooth cultivator every time quackgrass gets 1 to 2 inches tall. A duckfoot cultivator is not recommended. In a wet season, intensive cultivation is of little value.

Second Year: Plant a row crop and do a thorough job of cultivation.

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